CLINICAL INFORMATION RESOURCE NETWORK PATIENT DEMOGRAPHICS (CIRN-PD) Pre-Installation and Implementation Guide

Version 0.5

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Department of Veterans Affairs
V*IST***A** Software Development
Clinical Ancillary Product Line

Preface

The key objectives of the Clinical Information Resource Network (CIRN) project are to identify the sites where a patient is receiving care, to share the clinical data for a patient between those sites, and to create and maintain a clinical repository at each site reflecting patient care delivered throughout the Veteran Integrated Service Network (VISN). The clinical repository must store clinical essentials of data important to primary and longitudinal patient care, accommodate data from external sites (Veterans Health Administration (VHA) and non-VHA), facilitate decision support, manage data independently of departmental application storage policies, support longitudinal record growth, and support evolution of data classes stored.

This document has been prepared to provide the Medical Administration Service (MAS) Automated Data Processing Application Coordinator (ADPAC) and Information Resource Management (IRM) support staff with instructions for preparing the site's computer system for the implementation of the CIRN software.

Reference Material

CIRN manuals include:

CIRN Patient Demographics (CIRN-PD) Installation and Implementation Guide,
CIRN Clinical Repository (CIRN-CR) Installation and Implementation Guide,
CIRN-PD Technical Manual,
CIRN Clinical Technical Manual,
CIRN Clinician's User Manual,
CIRN-PD Patient Administration User Manual,
CIRN PD HL7 Interface Manual,
CIRN Master File Update Tracking and Distribution Tool.

One of the major pre-implementation tasks for CIRN is the merging of duplicate patient records at a site. The *Duplicate Record Merge: Patient Merge (Patch XT*7.3*23) User Manual* is essential for this task.

Because of the close interaction of CIRN with other packages, the user may find it helpful to review documentation for Veterans Health Information Systems and Technology Architecture (**V***IST***A**) Health Level 7 (HL7) V. 1.6, and Patient Information Management System (PIMS) V. 5.3 Admission-Discharge-and Transfer (ADT) module.

Complete information on standard **VISTA** conventions can be found in the **VISTA** *User's Guide to Computing.*

Acknowledgment

CIRN was inspired by the Regenstrief Medical Record System from the Regenstrief Institute of Indianapolis, Indiana.

Table of Contents

Introduction

A number of fundamental changes have been made within VHA and its method of healthcare delivery in order to adapt to the current budget and healthcare industry environments. Reorganization of VHA healthcare facilities into 22 geographically-oriented Veteran Integrated Service Networks (VISNs) is one fundamental change. The transition from inpatient, hospital and medical specialty care to an outpatient, integrated and primary care-based delivery system is another major shift. Also, VHA healthcare facilities may now coordinate their efforts regarding the provision of specialty (non-primary) care and refer veterans to other facilities (throughout the VISN) for care they do not offer on-site. VISN management now monitors patient activity, funds individual healthcare facilities, and plans for the provision of care for the veteran population within its boundaries.

Referral of outpatients to other facilities will become more frequent as the traditional VA medical center continues to become "an important, but less central component of a larger, community-based network of care (Vision for Change, p. 11)". Consequently, a shift toward Ambulatory Care services and cost reduction will be necessary. Another outcome is the movement toward economies of scale in terms of the distribution of healthcare resources. As VISNs become organized and inventories of clinical services are reviewed, under-utilized or scarce healthcare resources (as well as other services) may be redistributed across member facilities. This translates into the increased possibility that the patient w ill be referred to another VA facility for medical care. Access to patient information will be a crucial element in care delivery as intra-VISN (and inter-VISN) referral of patients throughout a large geographic area becomes a standard method of providing managed care.

The purpose of the Clinical Information Resources Network (CIRN) project is to provide a system for distributing patients' up-to-date clinical and demographic data to facilities. CIRN automatically delivers this information on any particular patient to every VA facility that he or she has been to.

Package Management

Name and Number Spaces

The CIRN package namespace is RG and the file range is 990-999.99...

External Relations

The following packages (fully patched) must be installed at the site:

Application	Version # and Patches
PIMS	5.3 including patches DG*5.3*72 and 156
MailMan	7.1
KERNEL	8.0
VA FileMan	21

Computerized Patient Records System (CPRS) sites should have PSO*7*11 installed.

Legal Requirements

This package does not impose any additional legal requirements on the user. All users are reminded that many of the reports generated by this package contain confidential patient information and should be treated accordingly.

Global Information

Globals included in the installation are shown in the File List.

The ^RGSITE global needs to be placed on the system. You will need to reboot your system for translations to take effect.

Global configuration

Alpha Cluster (DSM): The globals should be placed and protected on the proper volume set using the %GLOMAN utility.

Open M: Use the GUI Global utility to add and place the globals. Default global attributes should be used.

	System Owner	World	Group	UCI/USER NET
Alpha (DSM)	RWP	RWP	RWP	RWP
Open M	RWD	R	R	RWD

Installation Information

The CIRN Pre-Installation and Pre-Implementation product provides options to calculate and assign CIRN Master of Record (CMOR) scores prior to installing CIRN and also provides options for cleaning up eligibility codes, pseudo Social Security numbers (SSNs), and the Marital Status and Religion files.

Sites should note that three entries in the Clinic Stop file (#40.7) will be used by CIRN if they exist. The entries are PRIMARY CARE/MEDICINE, PRIMARY CARE/SURGERY, and GERIATRIC PRIMARY CARE. Do not make any adjustments or changes to your File #40.7.

Time Estimates

Process	Time
Eligibility Files Check	10 minutes-1 hour
Pseudo SSN Clean-up	1 day - 1 week
Marital Status Clean-up	1 day - 1 week
Religion file Clean-up	1 day - 1 week
Calculate CMOR Scores	approximately 4 hours (after hours)

File List

The following file information is broken down according to the portion of the Build the file appears in.

Clinical Information Resource Network 0.5

FILE #	NAME	Global	UP DATE DD	SEND SEC CODE	DATA COMES W/FILE	SITE DATA	RSLV PTS	USER OVER RIDE
991.8	CIRN SITE PARAMETERS	^RGSITE(991.8,	YES	YES	YES	OVER	YES	NO

*DG*5.3*172*

FILE #	NAME	Global	UP DATE DD	SEND SEC CODE	DATA COMES W/FILE	SITE DATA	RSLV PTS	USER OVER RIDE
2	PATIENT Partial DD: subDD: 2 fld: 991.06 fld: 991.07	^DPT(	YES	NO	NO			
390.1	MARITAL/RELIGION CONVERSION	^XTMP("DGTMP", 390.1,	YES	NO	NO			
390.2	MARITAL/RELIGION MAPPING	^XTMP("DGTMP", 390.2,	YES	NO	NO			

Routines

The following routine information is broken down according to the portion of the Build it is in.

Clinical Information Resource Network 0.5

RGMTDPCT	RGMTDPSC	RGPRELIG	RGPRENV	RGPRSSN
RGRSWPT	RGVCCMR1	RGVCCMR2	RGPRPST	

*DG*5.3*172*

DG17201	DG17202	DG17203	DG17204	

Templates

The following templates are exported with the DG*5.3*172 patch.

Print Templates:
DG172 MARITAL MAPPING FILE #390.2
DG172 RELIGION MAPPING FILE #390.2

Sort Templates:
DG172 MARITAL MAPPING FILE #390.2
DG172 RELIGION MAPPING FILE #390.2

Input Templates:
DG172 NEW ENTRY FILE #390.1
DG172 NEW MARITAL FILE #390.2
DG172 NEW RELIGION FILE #390.2

Installation

Installation and testing in a test account prior to installation in the production account is recommended.

1. **Make system backup**

2. **Set DUZ**
   Sign into the account where the package is to be installed. Check that your DUZ is set to a valid user number and DUZ(0)=@ and U="^".

3. **Proceed with KIDS installation**
   From the KIDS Installation menu, Select the Load A Distribution option to load the CIRN0_5T1.KID file. Use the Verify Checksums In Transport Global to verify that all routines have the correct checksum. Then, choose the Install Package(s) option.

```
Select Kernel Installation & Distribution System Option: Installation

Select Installation Option: 1  Load a Distribution
Enter a Host File: RG_0_5.KID

KIDS Distribution saved on Sep 23, 1998@14:13:09
Comment: Clinical Information Resource Network (CIRN) 0.5 (Pre-Implementation)

This Distribution contains Transport Globals for the following Package(s):
     CIRN PRE-IMP 0.5
     CLINICAL INFO RESOURCE NETWORK 0.5
     DG*5.3*172

Want to Continue with Load? YES// <RET>
Loading Distribution...

   CIRN PRE-IMP 0.5
Want to RUN the Environment Check Routine? YES// <RET>
   CLINICAL INFO RESOURCE NETWORK 0.5
Will first run the Environment Check Routine, RGPRENV


No RG prefixes found in PACKAGE file.
   DG*5.3*172
Use INSTALL NAME: CIRN PRE-IMP 0.5 to install this Distribution.
```

```
Select Installation Option: 6  Install Package(s)
Select INSTALL NAME: CIRN PRE-IMP 0.5          Loaded from Distribution  9/23/98
@15:29:35
     => Clinical Information Resource Network (CIRN) 0.5 (Pre-Implementation)

This Distribution was loaded on Sep 23, 1998@15:29:35 with header of
Clinical Information Resource Network (CIRN) 0.5 (Pre-Implementation)  ;Created
on Sep 23, 1998@14:13:09
It consisted of the following Install(s):
CIRN PRE-IMP 0.5
CLINICAL INFO RESOURCE NETWORK 0.5
DG*5.3*172

   CIRN PRE-IMP 0.5

Install Questions for CIRN PRE-IMP 0.5


   CLINICAL INFO RESOURCE NETWORK 0.5
Will first run the Environment Check Routine, RGPRENV


No RG prefixes found in PACKAGE file.

Install Questions for CLINICAL INFO RESOURCE NETWORK 0.5

Incoming Files:


   991.8     CIRN SITE PARAMETER  (including data)

   DG*5.3*172

Install Questions for DG*5.3*172

Incoming Files:


   2         PATIENT  (Partial Definition)
Note:  You already have the 'PATIENT' File.


   390.1     MARITAL/RELIGION CONVERSION
Note:  You already have the 'MARITAL/RELIGION CONVERSION' File.


   390.2     MARITAL/RELIGION MAPPING
Note:  You already have the 'MARITAL/RELIGION MAPPING' File.


Want to DISABLE Scheduled Options, Menu Options, and Protocols? YES// NO

Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
Enter a '^' to abort the install.

DEVICE: HOME//   UCX/TELNET




 Install Started for CIRN PRE-IMP 0.5 :
               Sep 23, 1998@15:32

 Installing Routines:
               Sep 23, 1998@15:32

 Updating Routine file...
```

```
 Updating KIDS files...

 CIRN PRE-IMP 0.5 Installed.
               Sep 23, 1998@15:32:01

 No link to PACKAGE file

 NO Install Message sent

 Install Started for CLINICAL INFO RESOURCE NETWORK 0.5 :
               Sep 23, 1998@15:32:01

 Installing Routines:
               Sep 23, 1998@15:32:01

 Installing Data Dictionaries:
               Sep 23, 1998@15:32:02

 Installing Data:
               Sep 23, 1998@15:32:02

 Installing PACKAGE COMPONENTS:

 Installing OPTION
               Sep 23, 1998@15:32:04

 Running Post-Install Routine: ^RGPRPST

Adding Clinics to File 991.8

 Updating Routine file...

 Updating KIDS files...

 CLINICAL INFO RESOURCE NETWORK 0.5 Installed.
               Sep 23, 1998@15:32:05

 Install Message sent #65770

 Install Started for DG*5.3*172 :
               Sep 23, 1998@15:32:05

 Installing Routines:
               Sep 23, 1998@15:32:05

 Installing Data Dictionaries: ...
               Sep 23, 1998@15:32:18

 Installing PACKAGE COMPONENTS:

 Installing PRINT TEMPLATE

 Installing SORT TEMPLATE

Running Post-Install Routine: START^DG17203
Reindex Religion and Marital Status files xrefs ...
Setting up files that need to be converted...
Setting up standard/non-standard mapping file...

 Updating Routine file...

 Updating KIDS files...

 DG*5.3*172 Installed.
               Sep 23, 1998@15:32:21

 Install Message sent #65771

Install Completed
```

Post-Installation

1. Assign Menu

The CIRN Pre-Implementation Menu [RGPR PRE-IMP MENU] should be assigned to the IRM point of contact and the Patient Administration (MAS) Application Coordinator.

CIRN Pre-Implementation

The CIRN Pre-Implementation phase is a necessary step before your site can process its Patient file records against the Master Patient Index (MPI). This software provides a number of utilities and reports to help sites in preparing their database prior to the installation of CIRN V. 1.0. Sites should run the reports and then complete the "clean-ups" as appropriate. This document contains an explanation of each required task along with an example of how to use the tools and reports related to each task.

Completion of the following tasks insures that patient information is as up to date and complete as possible prior to your site's initialization against the Master Patient Index. Most tasks can be completed by using the Pre-Implementation Menu options; however, some steps (also outlined in this document) require use of existing ***VISTA*** software options. The Patient Administration and/or IRM point of contact should complete the following steps, in the suggested order, well in advance of CIRN V. 1.0 installation.

1. Clean up Pseudo-SSNs
Updating active veteran patients' missing or pseudo SSN is necessary in order to interface properly with the MPI. Having the correct SSN for active patients will also provide benefit for inpatient and outpatient workload transmissions to Austin.

2. Insure Test patients have "5 leading zero" SSNs:
Test patients with the "5 leading zero" Social Security numbers can be used in all ***VISTA*** applications and transmitted to the national databases. The national databases will ignore all patients with five leading zeros in the SSN field. The CIRN software will also ignore these patients during the process of initializing your site's Patient file (#2) with the Master Patient Index (MPI).

3. Review Eligibility Code files (# 8 and # 8.1):
Insuring all "local" Eligibility Codes are mapped to a National Eligibility code at each site will reduce the probability that anomalous Eligibility information is passed to other sites in which the patient receives care. Reviewing the Eligibility Code files will also benefit the site by listing facility-entered Eligibility Codes not mapped to an associated National Eligibility code.

4. Duplicate Record Merge
Merging duplicate patient records at each site will allow consolidation of patient information and will lessen the effort needed when processing against the MPI. The search for possible duplicate records and the subsequent merge after review are

key data integrity steps. Completing this step at the site prior to interacting with the MPI will insure smoother interactions and processing.

5. Update/Standardization of the Marital Status (#11) & Religion (#13) files
Part of the CIRN Pre-Implementation includes the update of two standard patient demographic-based files (Marital Status and Religion). The options provided will assist in the review of the files to: (1) insure all National standard entries are present, (2) report non-standard entries, (3) allow the user to re-point patients to a standard entry (example: SINGLE to NEVER MARRIED), and (4) delete the non-standard entries.

6. Inconsistent Data clean-up
You are strongly encouraged to use the existing Inconsistency Supervisor menu options and the Inconsistent Data Elements Report in the ADT/Registration package (part of the PIMS software) to diagnose and clean up Patient record inconsistencies prior to initializing against the MPI.

7. Calculation of CIRN Master of Record (CMOR) Scores
The CMOR is the designated "owner" of the patient's descriptive and clinical data and plays a major role in the distribution of descriptive and clinical data to subscribers. Typically, the CMOR for a particular patient should be that site where the patient has the most activity/receives the most care. A patient will have only one CMOR at a time. **Note:** Designating your site as the CMOR for a patient does not provide you with "workload credit" or any other distinction.

The Start/Restart CMOR Calcultion option calculates a metric for each active patient that is later used to determine the CMOR site. You must run the option prior to CIRN V. 1.0 installation and implementation. When your site implements CIRN V. 1.0, only those patients with a CMOR score will be processed against the MPI.

CIRN Pre-Implementation Options

```
PRE   CIRN Pre-Implementation Menu

   Pseudo-SSN Report
   Eligibility Code Files Report
   Marital Status File - Map Non-Standard Entries
   Religion File - Map Non-Standard Entries
   Begin Religion/Marital Status Conversion
   Stop Religion/Marital Status Conversion
   CIRN Master of Record Menu ...
          BGN    Start/Restart CMOR Score Calculation
          HLT    Stop CMOR Score Calculation
          IND    Calculate Individual Patient CMOR Score
          CSS    CMOR Score Calculation Status
          DRS    Duplicate Record by CMOR Score
          STAT   Duplicate Record Statistics
```

Pseudo SSN Report

The Pseudo SSN Report identifies patients with questionable SSNs. The completed report sorts patients by Patient Activity and then by the patient's Primary Eligibility Code. This feature assists sites in prioritizing patients for the clean-up. The report identifies ALL patients in the database with a missing, pseudo, or potentially false SSN and further identifies patients with inpatient and/or outpatient activity over the past 3 years. The report also identifies entries in the Patient file (#2) with a "B" cross-reference and no zero node entry and displays the patient record IEN (Internal Entry Number) within the first section of the report. This first section should be provided to your station's IRM service for their information. The following example shows the output from the report.

```
Select Pre-implementation Menu Option: Pseudo-SSN Report

This report will provide a list of (1) any Bad B Cross-references
(in which there is no 'zero' node but a B x-ref) on the patient
file, (2) a list of patients with Pseudo SSNs who have NOT had
activity within the past 3 years, and (3) a list of patients with
Pseudo SSNs who HAVE had activity within the past 3 years. Patient
lists are sorted by Primary Eligibility Code. The report can be
queued if desired.

For CIRN purposes, general advice is to concentrate first on
getting correct SSNs for the patients who HAVE had activity within
the past 3 years.

DEVICE: HOME// enter printer    Right Margin: 80// <RET>


CIRN Report of Pseudo, missing & potentially false SSNs MAY 12, 1998@16:30:33

Bad B Cross References Report
Please contact IRM for assistance with bad B Cross references.
------------------------------------------------------------------------------
B Cross Reference with no 0 Node in DPT: DFN= 7169186
B Cross Reference with no 0 Node in DPT: DFN= 7169107
Enter RETURN to continue or '^' to exit:




CIRN Report of Pseudo, missing & potentially false SSNs MAY 12, 1998@16:30:37

                    Patient activity within past 3 years = NO
 Primary
 Elig Code
          Elig.     Name                                  SSN        Home Phone
------------------------------------------------------------------------------

AID & ATTENDANCE
          2         FREEMAN,JOHN P                        564102357P (518)-462-1929
          2         JONES,ROBERT P                        564102357P (518)-462-1929
          2         LEACH,HERMAN F                        564102357P (518)-462-1929
          2         QUANDT,MARGE                          333333333  222-2222
          2         SMITH,HERBERTT P                      564102357P (518)-462-1929
NSC
          5         JONES,HARRY L                         344010805P None

OTHER FEDERAL AGENCY
          6         HENRY,GERALD                          222222222  None
```

```
HUMANITARIAN EMERGENCY
          8         FRANCE,BRUCE                          222222222  NONE

CHAMPVA
          12        FRANCE,KATHI                          402110057P 4432222

EMPLOYEE
          14        CARLSON-GOTTS,NANCY Z                 411010101P 555-9199

None
          None      DJJDK,LFAKLKD                                    None
          None      ENDS,LOOSE                                       None
          None      FDKFLKLF,KFFLKLF                                 None
          None      HOLMES,MICHAEL H.                     999887777  None
          None      IEUWTIOUER,ETRIIROT                              None
          None      JOHNS,BILL                            777777777  None
          None      JONES,PHILBERT                        604101010P None
          None      KFJHDM,AKDJKJ                                    None
          None      KJKF,SFKAFJK                                     None
          None      LLOYD,CARDIOLOGY                      104010150P None
          None      LUCKY,LINDY                           888888888  None
          None      RIVERA,JULIO                          406101010P None
          None      SDFJHFK,KLDJKLDJKLD                              None
          None      TEST,RENO NEVADA                                 None

SERVICE CONNECTED 50% to 100%
          1         SMULLEN,ROBERT E.                     627101097P None

SC LESS THAN 50%
          3         GORDON,ADAM                           987654321  960-9396
          3         HIGHBEE,ELMER                         203010101P None

NSC
          5         ARD,CAT                               101081440P None
          5         JONES,JOHN                            044041232P None
          5         WERT,DONALD                           208101011P None

HOUSEBOUND
          15        AAAAAAAAA,AAAAAAAAA BBBBBBBBBB        101101010P None

None
          None      NED,NED                               505090708P None
          None      SAWYER,KENNETH E.                     427050324P None
```

This report should be printed and provided to personnel assigned to update the Social Security numbers. These users would contact the patient and use the Load/Edit Patient Data option in the Admission, Discharge, Transfer (ADT) Registration to update the SSN. We suggest that sites first clean up those with activity = YES and prioritize the clean-up for patients with veteran Primary Eligibility Codes.

Test Patient SSNs

All test patients in your site's system must have their SSNs edited so that they conform to the "5 leading zeroes" format. There are no tools provided to list test patients. However, the Pseudo SSN report also lists patients with "potentially false" Social Security numbers, such as 111-11-1111. Insure that patch DG*5.3*72 (Test Patient Initiative released in Feb 1996) has been loaded in your production account.

Eligibility Code Files Report

The Eligibility Code Files Report option is a diagnostic utility for reviewing all "local" Eligibility Codes to insure they are mapped to a National Eligibility Code. The report will list all local Eligibility Codes in File #8 and the corresponding National Eligibility Codes they "point to" in File #8.1. The report will identify any "local" codes that do not correspond, or "point" to a National Eligibility Code. Also, inactive Eligibility Codes will be annotated with three asterisks. A statement is displayed with instructions when any local code has no corresponding National Eligibility Code.

The following is an example of the report output from an account where the Service Connected 50% to 100% entry in File 8 has no corresponding entry from File 8.1:

```
Select CIRN Pre-Implementation Menu Option:  Eligibility Code Files Report

This Option will compare the ELIGIBILITY CODE file (#8)
and the MAS ELIGIBILITY CODE file (8.1) to insure that all required
links are present.
DEVICE: HOME//Enter Printer

CIRN: ELIGIBILITY CODE REVIEW                        MAY 08, 1998@15:19:20

ELIGIBILITY CODE File (8)              MAS ELIGIBILITY CODE File (8.1)
=========================              ===============================

SERVICE CONNECTED 50% to 100%=>        <=NO MATCHING ENTRY

AID & ATTENDANCE=>                     <=AID & ATTENDANCE

SC LESS THAN 50%=>                     <=SC LESS THAN 50%

NSC, VA PENSION=>                      <=NSC, VA PENSION

NSC=>                                  <=NSC

OTHER FEDERAL AGENCY=>                 <=OTHER FEDERAL AGENCY

ALLIED VETERAN=>                       <=ALLIED VETERAN

HUMANITARIAN EMERGENCY=>               <=HUMANITARIAN EMERGENCY

SHARING AGREEMENT=>                    <=SHARING AGREEMENT

REIMBURSABLE INSURANCE=>               <=REIMBURSABLE INSURANCE
```

```
***DOM. PATIENT=>                          <=DOM. PATIENT***
CHAMPVA=>                                  <=CHAMPVA
COLLATERAL OF VET.=>                       <=COLLATERAL OF VET.
EMPLOYEE=>                                 <=EMPLOYEE
HOUSEBOUND=>                               <=HOUSEBOUND
MEXICAN BORDER WAR=>                       <=MEXICAN BORDER WAR
WORLD WAR I=>                              <=WORLD WAR I
PRISONER OF WAR=>                          <=PRISONER OF WAR
RICH'S BOGUS 1=>                           <=MEXICAN BORDER WAR
RICH'S BOGUS 2=>                           <=MEXICAN BORDER WAR
SITE SPECIFIC CODE #1=>                    <=CHAMPVA
TRICARE/CHAMPUS=>                          <=TRICARE/CHAMPUS
CATASTROPHICALLY DISABLED=>                <=CATASTROPHICALLY DISABLED
*** = INACTIVE ELIGIBILITY
If an entry in the File 8 column has NO MATCHING ENTRY listed in the
File 8.1 column, please contact your IRM Service.  See pages 14 & 15
in the PIMS Technical manual on Eligibility/ID Maintenance Menu.
```

Your IRM Service should be contacted if any entry in the Eligibility Code file (#8) column has the term NO MATCHING ENTRY listed in the MAS Eligibility Code file (# 8.1) column. They will need to use the Eligibility Code Enter/Edit option in the Eligibility/ID Maintenance menu to map those entries to existing entries in File #8.1. Additional information on the Eligibility Code Enter/Edit option and the Eligibility/ID Maintenance menu can be found on pages 14 and 15 of the PIMS Technical manual. An example of the correction process is below:

```
>D ^XUP

Setting up programmer environment
Terminal Type set to: C-VT100

Select OPTION NAME: ELIGIBILITY/ID MAINTENANCE MEN  DG ELIG MAINTENANCE
  Eligibility/ID Maintenance Menu


          Eligibility Code Enter/Edit
          ID Format Enter/Edit
          Primary Eligibility ID Reset (All Patients)
          Reset All ID's for a Patient
          Reset ALL ID's for ALL Patients
          Specific Eligibility ID Reset (All patients)
          Specific ID Format Reset

Select Eligibility/ID Maintenance Menu Option: ELIGibility Code Enter/Edit

Select ELIGIBILITY CODE NAME: SERVICE CONNECTED 50% to 100%       1
  1   VETERAN
NAME: SERVICE CONNECTED 50% to 100%// <RET>
ABBREVIATION: SC 1// <RET>
PRINT NAME: SC, 50% TO 100%// <RET>  (No Editing)
```

```
INACTIVE: <RET>
MAS ELIGIBILITY CODE: SERVICE CONNECTED 50% to 100%       1
ID FORMAT: VA STANDARD// <RET>
AGENCY: <RET>
Select SYNONYM: <RET>

Select ELIGIBILITY CODE NAME: <RET>
```

Duplicate Record Merge

The Duplicate Record Merge software has been developed to assist VAMC facility representatives in identifying and merging duplicate records found in **V***IST***A** files. Record pairs are identified as potential duplicates through a search of the database. These potential duplicates are then validated through a manual review process to verify that they are duplicates, and then merged if desired by the user. The software is intended to provide a reliable approach to correctly identify and merge duplicate records. Duplicate Record Merge is distributed as patch XT*7.3*23.

The overall process consists of the search for potential duplicate record pairs, review and verification of those pairs, and the merge process. The search and identification of potential duplicate records is based on the Duplicate Resolution features of the KERNEL TOOLKIT. Once the search has been completed, the process of verifying record pairs begins. Reviewers view data associated with the potential duplicate pairs and determine their status. Once verified, a merge process may be initiated by the user. The merge is not reversible.

Although the Duplicate Record Merge software is not a part of CIRN, sites are strongly encouraged to use the software as part of the site preparation activities associated with CIRN implementation.

Complete details of the Duplicate Record Merge software can be found in the associated User and Technical manuals.

Marital Status File - Map Non-Standard Entries

Part of CIRN's site preparation phase includes the update of two standard patient demographic-based files (Marital Status (#11) and Religion (#13)) to clean up irregularities that may have been present for a number of years. A common example is the table entry of SINGLE in the Marital Status file; the current version of the standard file has no such entry, the proper entry is NEVER MARRIED. The utilities for this task are in patch DG*5.3*172 included in the CIRN Pre-Implementation software.

Four options on the CIRN Pre-Implementation Menu are involved with this process:

```
Pseudo-SSN Report
Eligibility Code Files Report
Marital Status File - Map Non-Standard Entries
Religion File - Map Non-Standard Entries
Begin Religion/Marital Status Conversion
Stop Religion/Marital Status Conversion
CIRN Master of Record Menu ...
```

The options assist in the review of the file to: (1) insure that all National standard entries are present, (2) report non-standard entries, (3) allow the user to re-point patients to a standard entry (for example: SINGLE to NEVER MARRIED), and (4) delete the non-standard entries. After re-pointing all involved patients, the system will (5) delete the files, templates and user options after the clean-up process has been completed.

When patch DG*5.3*172 is loaded, an "analysis" step is run as part of the post-install. This analysis step reviews all files and fields on the local system that point to the Marital Status and Religion files. The resultant analysis data is then stored in a temporary file (File # 390.1) for later processing. The second part of the analysis reviews the Marital Status and Religion files, and (1) adds standard entries that are missing to these files and (2) searches for non-standard entries. This analysis data is stored in another temporary file (File # 390.2) for later processing. Any non-standard entries found during the analysis step must be mapped to a valid standard entry. This information is used during the conversion step to re-point patients who are associated with the non-standard entries. The Marital Status File - Map Non-Standard Entries and Religion File - Map Non-Standard Entries options of the CIRN Pre-Implementation Menu are used for mapping these entries.

Let's begin by mapping for the Marital Status file. If you choose the Marital Status File - Map Non-Standard Entries option and the system returns the statement *** No mapping necessary! ***, it means the software did NOT find any non-standard entries in the Marital Status file. The same is true when using the Religion File - Map Non-Standard Entries option or mapping the Religion file. You will still need to run the Begin Religion/Marital Status Conversion option. If you get the instruction text and the "Device" prompt, it means the system did find non-standard entries. Print out or display the results on-screen. Choose a non-standard Marital Status from the list provided. Next, choose a Standard entry to map it to, such as UNKNOWN. The following is an example of the output and the steps involved with mapping. User responses are in bold.

```
Select CIRN Pre-Implementation Menu Option: Marital Status File –
Map Non-Standard Entries

This option will identify non-standard MARITAL STATUS file (#11) entries
and then allows the user to designate, for each non-standard entry,
a standard entry which this utility will re-point with associated patients.
For example, you will be able to map all patients with a marital status
of SINGLE to NEVER MARRIED.

This mapping will be used during the re-pointing and file clean-up
process, the Begin Religion/Marital Status Conversion [DG172 PRE-IMP
START CONVERSION] option.

The option (1) provides a list of non-standard MARITAL STATUS
file entries to the screen or a printer, (2) prompts the user for
a non-standard entry, and (3) then prompts for the standard
entry which the utility will re-point with associated patients.


DEVICE: <RET>  UCX/TELNET    Right Margin: 80// <RET>
MARITAL MAPPING LIST                  APR 19,1998  11:54      PAGE 1
NON-STANDARD
ENTRY            CONVERT TO:
-------------------------------------------------------------------------

DEMO_MAR_STAT
TEST_MAR_STAT

Select Non-Standard Marital Status: DEMO_MAR_STAT   7   DEMO_MAR_STAT
STANDARD MARITAL STATUS: UNKNOWN

Select Non-Standard Marital Status: TEST_MAR_STAT   8   TEST_MAR_STAT
STANDARD MARITAL STATUS: UNKNOWN

Select Non-Standard Marital Status: <RET>
```

Religion File - Map Non-Standard Entries

The process is essentially the same for mapping non-standard entries in the Religion file. Shown below is an example of the output and the mapping of 3 non-standard entries to the standard entry of UNKNOWN/NO PREFERENCE: Even if there are no non-standard entries, you will need to run the Begin Religion/Marital Status Conversion option.

```
Select CIRN Pre-Implementation Menu Option: Religion File - Map Non-Standard
Entries

This option will identify non-standard RELIGION file (#13) entries and
then allows the user to designate, for each non-standard entry, a
standard entry which this utility will re-point associated patients.
For example, you will be able to map all patients with a religion of
XXXXXX to UNKNOWN/NO PREFERENCE.

This linking will be used during the mapping and file clean-up
process, Begin Religion/Marital Status Conversion [DG172 PRE-IMP
START CONVERSION] option.

The option (1) provides a list of non-standard RELIGION file
entries to the screen or a printer, (2) prompts the user for
```

```
a non-standard entry, and (3) then prompts for the standard


DEVICE: <RET>  UCX/TELNET    Right Margin: 80// <RET>
RELIGION MAPPING LIST                    APR 19,1998  11:54    PAGE 1
NON-STANDARD

ENTRY            CONVERT TO:
-------------------------------------------------------------------

K DEMO RELIGION
Q DEMO RELIGION
T DEMO RELIGION

Select Non-Standard Religion: ??

Choose from:
   41   K DEMO RELIGION
   42   T DEMO RELIGION
   43   Q DEMO RELIGION

Select Non-Standard Religion: K DEMO RELIGION  41  K DEMO RELIGION
STANDARD RELIGION:  UNKNOWN/NO PREFERENCE       29

Select Non-Standard Religion: 42       T DEMO RELIGION
STANDARD RELIGION: 29  UNKNOWN/NO PREFERENCE

Select Non-Standard Religion: Q DEMO RELIGION  43  Q DEMO RELIGION
STANDARD RELIGION:  UNKNOWN/NO PREFERENCE       29

Select Non-Standard Religion: <RET>
```

Begin Religion/Marital Status Conversion

After the mapping of non-standard entries is complete, you need to run a conversion process that re-points non-standard entries to the designated standard entries. You will use the Begin Religion/Marital Status Conversion and Stop Religion/Marital Status Conversion options. The conversion process will update each file/field that points to the Marital Status and Religion files based on the analysis data stored in File # 390.1.

Note: Even if you did not have any non-standard entries in either the Marital Status or Religion file, you must still run the conversion process in order to complete the "un-install" portion of the conversion. If this is the case, the system will respond with the remark statement "Conversion is not necessary" and will then "un-install" the utility set. When the conversion process is finished, you will notice that options you just used have been removed from the menu. Shown below is an example of the conversion process where there were NO non-standard entries.

```
Select CIRN Pre-Implementation Menu Option: Begin Religion/Marital Status
Conversion

*** Conversion is not necessary! ***

Uninstalling patch...

...done!


   Pseudo-SSN Report
   Eligibility Code files Report
   CIRN Master of Record Menu ...

Select CIRN Pre-Implementation Menu Option:
```

Shown below is an example where there are non-standard entries in the account. **Note: You should queue the conversion to be run after hours.**

```
Select CIRN Pre-Implementation Menu Option: Begin Religion/Marital Status
Conversion

After mapping of non-standard entries is complete, this conversion
process is run in order to actually re-point patient records from
non-standard entries to the specified standard entries.

Are you sure you want to start the conversion process? NO// YES
Requested Start Time: NOW//T+1@1:00:00 (APR 19, 1998@1:00:00)
```

After the conversion process is complete, an e-mail message is generated and delivered to the user of the Begin Religion/Marital Status Conversion'option. The message reports the number of conversions that took place for each non-standard entry. Here is an example of the mail bulletin.

```
Subj: Conversion Finished  [#93331] 19 Apr 98 1:05  13 Lines
From: Religion/Marital Status Conversion  in 'IN' basket.   Page 1  **NEW**
------------------------------------------------------------------------

Marital Status File Non-Standard Entries:
=========================================
Entry: DEMO_MAR_STAT repointed to: UNKNOWN (# Converted: 2)
Entry: TEST_MAR_STAT repointed to: UNKNOWN (# Converted: 1)

Religion File Non-Standard Entries:
===================================
Entry: K DEMO RELIGION repointed to: UNKNOWN/NO PREFERENCE(# Converted:1)
Entry: T DEMO RELIGION repointed to: UNKNOWN/NO PREFERENCE(# Converted:1)
Entry: Q DEMO RELIGION repointed to: UNKNOWN/NO PREFERENCE(# Converted:1)

All non-standard entries above have been removed.


Select MESSAGE Action: IGNORE (in IN basket)//
```

Note that the non-standard entries are listed by the file they were in. The number of patient records that were re-pointed for each non-standard entry is also displayed.

After the conversion is finished, the two temporary files (File # 390.1 and File # 390.2) are deleted along with the non-standard entries from the Marital and Religion files. Associated menu options and templates are also deleted.

Stop Religion/Marital Status Conversion

Finally, you may stop the conversion process by choosing the Stop Religion/Marital Status Conversion option. The option will ask if you are sure you wish to **stop** the conversion process. Answer YES to stop the job.

```
Select CIRN Pre-Implementation Menu Option: Stop Religion/Marital Status
Conversion
Are you sure you want to stop the background conversion process? NO// YES

*** Job will stop soon ***
```

The system will store the last record it has converted and will re-start with the next record when the Begin Religion/Marital Status Conversion option is used again. If a user does stop the process, a mail bulletin is sent to that user confirming that the process was stopped.

```
Subj: Conversion *NOT* Finished  [#94155] 27 Jul 98 12:12  4 Lines
From: Religion/Marital Status Conversion  in 'IN' basket.   Page 1  **NEW**
---------------------------------------------------------------------------

The conversion process appears to have been stopped.
To finish the conversion process, restart by using
the 'Begin Religion/Marital Status Conversion' option
on the CIRN Pre-Implementation Menu.


Select MESSAGE Action: IGNORE (in IN basket)//
```

Clean up Patient file Inconsistencies

Sites are strongly encouraged to use the existing Inconsistency Supervisor menu options and the Inconsistent Data Elements Report in the ADT/Registration package (part of the PIMS software) to diagnose and clean up Patient record inconsistencies prior to initializing against the MPI. Although all inconsistency checks should be set to "Check," important inconsistencies to clean up for the CIRN initialization include:

#	Inconsistency Check
1	NAME FORMAT UNACCEPTABLE
3	SEX UNSPECIFIED
4	DOB UNSPECIFIED
5	MARITAL STATUS UNSPECIFIED
6	RELIGION UNSPECIFIED
7	SSN UNSPECIFIED
8	ADDRESS DATA INCOMPLETE
9	VETERAN STATUS UNSPECIFIED
10	SC PROMPT UNANSWERED
11	SC PROMPT INCONSISTENT
12	SC % UNSPECIFIED FOR SC VET
13	POS UNSPECIFIED
16	DATE OF DEATH IN FUTURE
18	ELIG/VET STATUS INCONSISTENT
19	ELIG/NONVET STAT INCONSISTENT
20	ELIG/SC % INCONSISTENT
24	POS/ELIG CODE INCONSISTENT
36	PATIENT TYPE UNDEFINED
53	EMPLOYMENT STATUS UNANSWERED

Specific steps should be taken in regard to the clean-up of site Patient files. First, the user should determine which Inconsistency checks are on and which are off. The following VA FileMan print will provide a succinct report.

```
Select VA FileMan Option:  Print File Entries

OUTPUT FROM WHAT FILE: INCONSISTENT DATA ELEMENTS//<RET>
SORT BY: NAME// @.001  NUMBER
START WITH NUMBER: FIRST// <RET>
  WITHIN NUMBER, SORT BY:
FIRST PRINT FIELD: !.001;C1;L5;"#"  NUMBER
THEN PRINT FIELD: .01;C8;L30  NAME
THEN PRINT FIELD: 5;C41;L12;"CHECK ?"  CHECK/DON'T CHECK
THEN PRINT FIELD: 2;C60  TEXT
THEN PRINT FIELD: <RET>

  ************************
Heading (S/C): INCONSISTENT DATA ELEMENTS STATISTICS
  Replace … With LIST OF INCONSISTENT DATA ELEMENTS
Replace
LIST OF INCONSISTENT DATA ELEMENTS
STORE PRINT LOGIC IN TEMPLATE:
DEVICE: Use a 132-column printer
```

Next, use the Determine Inconsistencies to Check/Don't Check option to set the desired inconsistency checkers to "Check".

```
Select Supervisor ADT Menu Option:  Inconsistency Supervisor Menu


          Determine Inconsistencies to Check/Don't Check
          Purge Inconsistent Data Elements
          Rebuild Inconsistency File
          Update Inconsistency File


Select Inconsistency Supervisor Menu Option: DETermine Inconsistencies to
Check/Don't Check

Select INCONSISTENT DATA ELEMENTS NAME: 8  ADDRESS DATA INCOMPLETE
================================================================================
Inconsistency results if the first line of the street address, city,
state, zip code and/or county are not specified.
================================================================================
CHECK/DON'T CHECK: DON'T CHECK// CHECK  CHECK

Select INCONSISTENT DATA ELEMENTS NAME:
```

Use the Rebuild Inconsistency File option to "kill off" existing inconsistency entries and rebuild the file if desired, or just add new entries to the existing file contents. You should determine which method is more beneficial to your site. You may wish to look at the number of existing entries in the file in order to judge the workload.

```
Select VA FileMan Option:  Print File Entries

OUTPUT FROM WHAT FILE: PATIENT// INCONSIS
     1   INCONSISTENT DATA               (2244 entries) ← Number ☺
     2   INCONSISTENT DATA ELEMENTS      (60 entries)
```

You should go back at least to the beginning of the current Fiscal Year (FY). A thorough review would include the current FY and 2 FY prior. Reference and review pages 11-51 to 11-57 in the PIMS ADT Module User manual (August 1997 Documentation Release version) before taking this step to make sure you understand the process. Make sure to queue this process after normal business hours.

One recommendation to consider is rebuilding the Inconsistency file a number of times. The user may wish to rebuild the file for a specific time period, such as one month. After the rebuild, the user would print the report for that time period. Once those patients are "cleaned up" the Inconsistency file would be rebuilt again for a month further in the past. This iterative process would be repeated until all patients identified for the current FY and 2 FY prior are cleaned up. This approach would make the process more manageable. An example of the "Rebuild" process follows.

```
Select Inconsistency Supervisor Menu Option: REbuild Inconsistency File

This routine is used to build the INCONSISTENT DATA file.  I will ask you to
enter a date and will check all patients who were admitted or were registered
on or after that date for inconsistencies.  If any exist I will add
those patients to the INCONSISTENT DATA file for further editing of those
inconsistencies.  You will also be asked if you wish to delete all the existing
entries and rebuild the file.  If you answer YES I will kill off all entries
which are currently in the file and then rebuild based on the date you entered.
If you answer NO I will simply add the new entries I find to the existing file.

LAST RUN COMPLETED:  MAR 24,1987@10:58

Do you want to delete the existing entries and rebuild the file? No// Y  (Yes)

Rebuild for patients seen since what date:  100197  (OCT 01, 1997)

I'm going to check all patients who were admitted or registered on or after
OCT 1,1997 [Within the Past 133 days].
I will DELETE all existing entries prior to rebuilding.

Is this correct? No// Y  (Yes)
Requested Start Time: NOW// T@1800  (FEB 11, 1998@18:00:00)

Request Queued!
```

The final step is to print a copy of the Inconsistent Data Elements Report. The user may wish to print the report for a specific time period (going back a month at a time, for example) in order to make the process more manageable. This is contingent on how far back to "rebuild" the Inconsistency file and how many times the site rebuilds it.

The report should then be used to contact patients (the home phone number is now listed on the report) and complete/correct any inconsistencies. Inconsistencies related to eligibility should be corrected using Hospital Inquiry (HINQ). An example of how to generate the report follows.

```
Select ADT Outputs Menu Option: INCONSIStent Data Elements Report

Generate a listing of inconsistent data elements by:

    ADMISSION DATE
    IDENTIFICATION DATE
    REGISTRATION DATE

CHOOSE OUTPUT METHOD OR ENTER '^' TO QUIT:  IDENTIFICATION DATE

Start with IDENTIFICATION DATE:  100197  (OCT 01, 1997)
     Go To IDENTIFICATION DATE:  OCT 1,1997// T  (FEB 11, 1998)

List by (N)ame or (T)erminal Digit:  NAME

THIS OUTPUT REQUIRES 132 COLUMN OUTPUT

DEVICE: HOME// Enter Printer
```

As mentioned earlier, sites should determine how far in the past they should go in terms of rebuilding the Inconsistency file, as this clean-up will also save an inordinate amount of time correcting Ambulatory Care Reporting Project (ACRP) (outpatient workload transmission) errors, Patient Treatment file (PTF) errors, etc. It may be wise to repeat this process and to go further back in time until the level of inconsistencies is manageable. It is strongly suggested that you eventually go back as close to October 1, 1995 as you can with the rebuild and clean-up before your site initializes against the MPI.

CIRN Master of Record Menu

The CMOR (CIRN Master of Record) is the designated "owner" of the patient's demographic and clinical data and plays a major role in the distribution of demographic and clinical data to other sites. The CMOR score indicates to the MPI which patients in your Patient file are active. During initialization of your database with the MPI, the first site at which the MPI encounters a patient will be assigned as the CMOR. Following the initialization with the MPI, your site will run an option that identifies the shared patients for which you are **not** the CMOR. An option is provided to send messages to the CMOR sites in order to compare the CMOR scores and reassign the CMOR if that action appears to be appropriate. Once CIRN is running at a site, the score is used in determining the logical CMOR site (for clinical purposes) of the patient.

The score is entered into the CMOR ACTIVITY SCORE field (#991.06) and the date it was calculated is entered into the SCORE CALCULATION DATE field (#991.07) of the Patient file.

The Start/Restart CMOR Score Calculation option calculates a CMOR score for the active patients in your Patient file (#2) based on activity (Current FY, FY-1, FY-2). In essence, the software assigns "points" for specific activity. The following table lists the Patient Activity Indices used along with the associated points tallied for each match.

PATIENT ACTIVITY INDICES	TIMEFRAME	CMOR POINTS
Outpatient Visits	Current FY	30 points
	FY (-1)	20 points
	FY (-2)	10 points
Appts with Stop Code 323 (Primary Care)	Any Appts	50 (additional) points
Admissions	Current FY	50 points
	FY (-1)	40 points
	FY (-2)	30 points
Current (active) / New Prescriptions		20 points

Lab Tests	Last 12 months	10 points
X Rays	Last 12 months	20 points

The result is a standard measurement that CIRN can use in determining the CMOR site for each patient. This step is Required – you will not be able to begin the initialization phase (processing against the MPI) unless this is done. A technical description of the CMOR calculation process can be found in Appendix C – CMOR Score Calculation Process.

Patients with no activity for this timeframe (current FY and 2 FY prior) are excluded. Patients with a pseudo SSN and deceased patients will have a CMOR score calculated if they have patient activity within the timeframe although pseudo SSN patients will not be processed against the MPI.

Using the CIRN Master of Record (CMOR) Menu options

This step is the last within the CIRN Pre-Implementation phase. From the Pre-Implementation Menu, choose the Start/Restart CMOR Score Calculation option.

```
Select CIRN Pre-Implementation Menu Option: CIRN Master of Record Menu


The CIRN CMOR Activity Score Generator

There are 525 records in your PATIENT file.
The last record number is 7169757. Has NEVER been run on your system.


   BGN      Start/Restart CMOR Score Calculation
   HLT      Stop CMOR Score Calculation
   IND      Calculate Individual Patient CMOR Score
   CSS      CMOR Score Calculation Status
   DRS      Duplicate Record by CMOR Score
   STAT     Duplicate Record Statistics

Select CIRN Master of Record Menu: BGN  Start/Restart CMOR Score Calculation

This is the initial run of the CIRN CMOR patient activity score generator.
Requested Start Time: NOW//  042298@1800
```

At the " Requested Start Time: NOW//" prompt, enter the date and time you want the option to begin running. It is recommended that this calculation option be run over a weekend. The process may be stopped and started as desired by using the appropriate option in the menu.

Start/Restart CMOR Score Calculation

The Start/Restart CMOR Score Calculation starts the background job that calculates the CMOR score for each active patient and records the score and date in your Patient file (#2). The process can be stopped during hours of peak activity and restarted at a later time.

```
Select CIRN Master of Record Menu Option: BGN  Start/Restart CMOR Score
Calculation

This is the initial run of the CIRN CMOR patient activity score generator.
Requested Start Time: NOW// <RET> (OCT 08, 1997@15:42:19)   Task#, 52323 queued
```

Calculate Individual Patient CMOR Score

This option calculates a CMOR patient activity score for an individual patient. After it is calculated the score is filed in the Patient file.

```
Select CIRN Master of Record Menu: IND  Calculate Individual Patient CMOR Score
Select PATIENT NAME:  Veteran,John Q      10-06-50     111111111     4A-MED
  472-29     MED/ORANGE/3D     YES     SC VETERAN             --    G     G

This patient has an existing CMOR score of 2480 calculated on OCT 8,1997.

Do you want to calculate and file a new score for this patient? NO//y  YES

Working.  Please standby...

CMOR Activity Score: 2480 filed for Veteran,John Q  ssn: 111111111.
```

CMOR Score Calculation Status

This option is used to check on the progress of the Start/Restart background job.

```
Select CIRN Master of Record Menu: CSS CMOR Score Calculation Status
The CIRN CMOR Activity Score Generator

There are 278309 records in your PATIENT file.
The last record number is 7317156.
Last Patient Processed: THGIRW,ABRAHAM NMN   SSN: 162223958   [RECORD# 35]

The CMOR score initialization last started on OCT 8,1997@15:42:29
 has processed 1 records and IS RUNNING.
```

Stop CMOR Score Calculation

This option is used to stop the background job prior to its completion.

```
Select CIRN Master of Record Menu Option: HLT   Stop CMOR Score Calculation
This option will stop the CIRN CMOR patient activity score generation
after it has completed calculating and filing the score for the current
patient.

Are you sure you want to do this? N// YES

Stop patient activity score generation after the current patient? N// YES

CIRN CMOR patient activity generation is flagged to stop after it has
completed the current patient.  This may take a short time.  Please check
the status later.
```

Duplicate Record by CMOR Score

The Duplicate Record by CMOR Score option provides a listing of the CMOR scores from the duplicate Record file (#15). It will display the number of duplicates per every 100 points. For example: there may be 10 patients with a score between 100 and 199. A NO SCORE means that the pair of potential duplicates had no score (no activity in the last three years). The total entries for the Patient file (2) and the Duplicates Records (15) are also displayed.

The example below shows that the site has 184 duplicate record pairs where at least one of the 2 records has evidence of patient activity in the past 3 years. This will provide users with a better picture regarding the number of duplicate records that should be merged prior to the site initializing their patient file against the Master Patient Index (MPI).

```
Duplicate Record Count by CMOR Score                    Page: 1
                                                        Date: JUL 23,1998@16:05
------------------------------------------------------------------------------
This report is drawn from the Duplicate Record file (#15) with
CMOR scores from the PATIENT file, CMOR ACTIVITY SCORE field.

- If both members of a pair have a score of zero the pair is
  counted in the '0' group.
- If one or both members of the pair have a score greater than
  zero, that pair is counted in the group for the higher score.
- If neither member of the pair have a CMOR score, the pair is
  counted in the 'NO SCORE' group.

          Score Range                   Count
          -----------                   -----

          1 - 99                          24
          100 - 199                        6
          200 - 299                        2
```

```
            300 - 399                          3
            400 - 499                          7
            500 - 599                          3
            600 - 699                          2
            700 - 799                          2
            900 - 999                          1
            1000 - 1099                        1
            1100 - 1199                        4
            1200 - 1299                        1
            1300 - 1399                        1
            1400 - 1499                        1
            1500 - 1599                        2
            1600 - 1699                        1
            1700 - 1799                        2
            1800 - 1899                        1
            2100 - 2199                        1
            2300 - 2399                        1
            2400 - 2499                        2
            2500 - 2599                        1
            2600 - 2699                        1
            2800 - 2899                        1
            3000 - 3099                        1
            3200 - 3299                        1
            3500 - 3599                        1
            7400 - 7499                        1
            7700 - 7799                        1
            NO SCORE                         108

  TOTAL Potential Duplicates (15):           184
  TOTAL Patients (2):                      77160..
```

Duplicate Record Statistics

This option provides the user with the percentiles of the patients in the various status categories for merge and verification status.

```
Select CIRN Master of Record Menu Option: STAT  Duplicate Record Statistics
Duplicate Record File Statistics Scan

Requested Start Time: NOW// <RET> (JUL 08, 1998@13:29:07)
  Task# 201539 queued to run.
```

When the scan is completed, you will receive a mail message similar to the following:

```
Subj: Duplicate Record Counts: ALBANY, NY  [#93979] 08 Jul 98 13:29  13 Lines
From: POSTMASTER  in 'IN' basket.   Page 1  **NEW**
-------------------------------------------------------------------------------

Duplicate Record (^DPT) Statistics              Run Date: JUL 8,1998@13:29:11

ALBANY, NY (500)

Counts by:  Merge Status and Match Percentile:

    Merge Status: READY
      Percentile: 80          9
      Percentile: 90          23
      Percentile: 100         13
```

```
    Merge Status: MERGED
      Percentile: 100          4

    Merge Status: UNKNOWN
      Percentile: 60           27
      Percentile: 70           37
      Percentile: 80           42
      Percentile: 90           16
      Percentile: 100          13

  Counts by:  Verification Status and Match Percentile:

    Verification Status: POTENTIAL DUP., UNVERIF
      Percentile: 60           27
      Percentile: 70           37
      Percentile: 80           36
      Percentile: 90           1
      Percentile: 100          1

    Verification Status: REQUIRES RESOLUTION
      Percentile: 80           6
      Percentile: 90           15
      Percentile: 100          12

    Verification Status: VERIFIED DUPLICATE
      Percentile: 80           9
      Percentile: 90           23
      Percentile: 100          17


Select MESSAGE Action: IGNORE (in IN basket)//
```

Appendix A: CIRN Business Rules

Start-up (only)
A patient's CMOR will be the first treating site that identifies the patient to the MPI.

Integration Control Number (ICN)

More than one patient in a single Patient file can not have the same ICN. If an ICN is returned from the MPI and another patient in that database already has that same ICN, an exception will be logged and the ICN, CMOR, etc will not be updated for this new patient.

CMOR changes
Receiving site must be a treating facility (patient must be registered there).

Update Messages
Descriptive data update messages are broadcast by the CMOR. Clinical data updates are broadcast directly to the subscribers by the treating facility.

Institution File
A site can be in only one VISN at a time. A record in the Institution file can not have two parents of the same type.

A record in the Institution file cannot be a child and have children of its own.

MPI (Austin)
The MPI accepts update messages only from the CMOR.
The MPI maintains a copy of the treating facilities list but not the subscription list.
Subscriber messages are not sent to the MPI.

Treating Facilities
Broadcast messages to add a treating facility for a patient will come only from the CIRN Master of Record (CMOR). Site requesting to be added sends message to CMOR, CMOR broadcasts A08 update message.

Subscriptions
All Subscribers to clinical data will be subscribers to descriptive data. A clinical subscriber can change to a descriptive category. Subscribers that are not designated as treating facilities may deactivate their subscription using an expiration date. Treating Facilities will be clinical subscribers unless they request descriptive only. Treating facilities may not deactivate from descriptive subscriptions.

Sites can only subscribe/unsubscribe themselves except in cases of automatic subscription (treating facility).

Descriptive subscription lists will be synchronized.

Patient Sensitivity

If a shared patient is flagged as sensitive at one of the treating sites, a bulletin is sent to the DG SENSITIVITY mail group at each subscribing site telling where, when, and by whom the flag was set. Each site can then review whether the circumstances meet the local criteria for sensitivity flagging.

Appendix B – Brief Summary of Duplicate Record Merge: Patient Merge (Patch XT*7.3*23)

A brief description of the merge process is presented here. For actual instructions, see the Duplicate Record Merge software documentation.

Perform Duplicate Patient Entry Identification

Using the Patient Merge software utility, identify the potential duplicate entries in the Patient file (#2). The merge process is final; there is no reversal of the merge.

1. Establish site selectable parameters and make appropriate entries in the site parameter file as directed by the software documentation.

2. Run the duplicate testing option of the software to obtain a list of the potential duplicate records.

3. If necessary, adjust the site selectable parameters in the site parameter file and run the duplicate testing option of the software again to obtain a new list.

Review and Resolve Potential Duplicate Entries in VISTA Database

Identify entries in the **VISTA** database that are duplicate entries and prepare record attributes for record merging.

1. Review the report of potential duplicates in the Patient file (#2) as identified by the utilities provided for Patient Merge. The algorithm used to identify potential duplicates should score at least a 60% match based upon the following criteria to be considered conclusively a match.

   - ◊ Patient Name
   - ◊ SSN
   - ◊ Date of Birth
   - ◊ Date of Death
   - ◊ Last Separation Date(Last Discharge Date)
   - ◊ Mother's Maiden Name
   - ◊ Zip Code

   For consideration:
   - ◊ Sex

- ◊ Service Separation Date [LAST]
- ◊ Period of Service
- ◊ Primary Eligibility Code

2. For the records identified as potential duplicates, set up a manual review process to determine whether the records are in fact duplicates or whether the records identify unique patients.

    a. Print out Health Summary data on flagged records to assist in duplicate resolution.
    b. Set up application mail groups (e.g., Lab, Pharmacy, Radiology) to receive messages of potential duplicate records. If examination of application data shows that the records are NOT duplicates, the process is halted and the record is removed from the potential duplicate list.
    c. Establish a time-frame for application mail groups to respond to duplicate resolution of each record. If no response is received within the established time-frame, the record is considered "verified" and is eligible for merging.
    d. Establish a review process to determine which record contains the "correct" data for each attribute, if the data differs among the records.
    e. Correct the data for each duplicate record in the database so that a merge process will effect a complete record.

Perform Merge Process

Merge duplicate entries in **V*IST*A** databases (e.g., Patient file, Laboratory data file, Pharmacy data file, etc.) as appropriate, using the Patient Merge software. It is not possible to merge data for some application files and not for others. The potential duplicate testing and subsequent reporting is the only step that may be performed without causing a change in the database.

Appendix C – CMOR Score Calculation Process

The following is a technical description of the CMOR calculation process:

The CMOR patient activity score generator begins at the first entry in the Patient file and processes through all patient records in sequence. It skips all patients whose name begins with two capital Zs, those with five leading zeroes in their SSNs, and those who have had no activity in the past three years (this is determined using CIRN's $$ACTIVE^RGRSWRPT(DFN) call). All other patients, including deceased patients, are examined and a score is calculated.

The utility then calculates separate scores for outpatient activity, admissions, radiology procedures, active prescriptions and laboratory procedures.

OUTPATIENT ACTIVITY
Outpatient activity is evaluated over the past three years with a descending value for each fiscal year prior to the present year. The data comes from the Outpatient Encounter file (^SCE). The program first determines what the entry numbers are for Primary Care, X-ray, and Laboratory stop codes. These are used for special purposes. Visits for X-ray and Lab procedures have a separate section to calculate their values and are not evaluated here. This action prevents the double counting of these encounters. The stop code entry numbers for x-ray and lab are used for this purpose. The encounters are set into an array (VISIT) using the date without the time so that there is only one entry for each visit date regardless of how many encounters a patient might have had. The value assigned to each visit date is based on the fiscal year. Visit dates for the current fiscal year are valued at 30 points; visits for the prior fiscal year are valued at 20 points, and visits for the fiscal year prior to that are valued at 10 points. Each encounter is checked to see if it contains a primary care stop code. If it does, an additional 50 points are added to the score for the encounter date. Once all encounters for the current and two prior fiscal years are scored, the routine adds the scores for all dates and adds it to the score accumulator.

ADMISSION ACTIVITY
The data for admission activity is drawn from the PTF file (^DGPT). The routine checks the current and previous two fiscal years and builds an array (ADM) based on the admission date. Scores are assigned based on the fiscal year, with 50 points awarded for admissions in the current fiscal year, 40 points for admission in the previous fiscal year, and 30 points awarded for admissions in the year prior to that. Once admissions for the current and previous two fiscal years are checked, the routine adds all the scores into the overall SCORE accumulator.

RADIOLOGY ACTIVITY
The data for radiology procedure activity is drawn from the RAD/NUC MED REPORTS file (^RARPT) for the current and previous calendar years. An array (XRAY) is built based on the date of the procedure (without the time). This method insures that only one entry for each date (where a radiology procedure was performed) is counted. Each date is given a value of 20 points. Once all dates for the for the past 12 months are checked, the scores are added into the overall SCORE accumulator.

PRESCRIPTION ACTIVITY The data for prescription activity is drawn from the Pharmacy Patient (^PS(55,) and Prescription (^PSRX) files. The Pharmacy Patient file is used to get a list of all of the patient's prescriptions; the Prescription file is then checked to see if the prescriptions are active, suspended or on hold. If the prescription is active, suspended or on hold, it is entered into an array (RX) with the internal number of the prescription. Each of these prescriptions are valued at 20 points. Once all these prescriptions have been identified / determined, the program then adds each value into the overall SCORE accumulator.

LABORATORY ACTIVITY
Before any processing takes place, the program first checks to see if the patient has a laboratory reference number (LRDFN) in his/her Patient file data. If an LRDFN is not present, the program stops and goes no further. If there is an LRDFN, the process continues. The data for laboratory activity is drawn from the Lab Data file (^LR). Laboratory procedures for the past 12 months are checked. The program checks for chemistry (CH), cytology (CY), electron microscopy (EM), microbiology (MI), and surgical pathology (SP) procedures. In this case, there will be a value assigned to each test done (a chemistry panel or any other group testing procedure is counted as one test). Each test is valued at 10 points. In this case, an array is not built so that if a patient has multiple types of tests on a given date, points will be awarded for each type of test done on that date. The value for each type of test on each date is added to the overall SCORE accumulator as the lab data is evaluated.

DATA FILING
Once an overall score is calculated, the score is entered into the CMOR ACTIVITY SCORE field (#991.06) and the date calculated is entered into the SCORE CALCULATION DATE field (#991.07). Entry of the CMOR ACTIVITY SCORE value sets a "nine's complement" cross-reference. This cross-reference is set such that the more active patients (i.e. those with larger scores) are found at the top of the cross-reference entries. This is to assure that the most active patients are processed first when any batch processing (based on score values) is done.